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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/387,310	08/31/1999	DANIEL YELLIN	162/01150	2435

7590

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EITAN, PEARL, LATZER & COHEN-ZEDEK, LLP  
10 Rockefeller Plaza  
Suite 1001  
New York, NY 10020

EXAMINER

WILLIAMS, DEMETRIA A

ART UNIT

PAPER NUMBER

2631

DATE MAILED: 04/10/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/387,310

Applicant(s)

YELLIN ET AL.

Examiner

Demetria A. Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4,6-8,10-21,23-25 and 27-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23-25,27-29 and 42-51 is/are allowed.
- 6) ☒ Claim(s) 4,7,10-12,14-16,30,31,39 and 40 is/are rejected.
- 7) ☐ Claim(s) 6,8,13,17-21,32-38 and 41 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 4, 7, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf in view of Butler.

4. Regarding claim 4, Wolf discloses a method of receiving messages by a communication terminal comprising receiving symbols of a frame (or codeword) and decoding the frame based on fewer symbols than the number of symbols in the frame (column 4, lines 47-50). Wolf further discloses that the decoding comprises decoding based on received symbols and assumed values of symbols not received (column 3, lines 30-42). However, Wolf does not disclose that the assumed value is expected with a substantial probability. Instead, Wolf uses a value of zero

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for those values not received but indicates that any value could be used. Butler discloses a system for decoding convolutionally encoded data wherein the values of bits that are known a priori can be used as padding bits in order to increase decoding performance (see generally column 3, lines 1-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wolf to include using known values for those not yet received, as done by Butler, in order to increase the probability of proper decoding and increase performance.

5. Regarding claim 7, Butler further discloses the use of the decoding method for paging channels (see generally column 5, lines 1-10)

6. Regarding claim 10, Wolf further discloses that the decoding can be completed before receiving all symbols (see generally column 3, lines 30-33).

7. Claims 11, 12, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf in view of Butler as applied above, and further in view of Lundby.

8. Regarding claims 11, 12, and 14, Wolf and Butler disclose all of the elements as described above in reference to claim 4, but neither explicitly recite that the use of a predetermined number of bits, which are adjusted based on the decoding success. Lundby discloses a system for decoding frames before all symbols are received wherein the decoding is performed using a predetermined number of received symbols. This is accomplished by dividing the frame into fractional segments prior to transmission (column 1, lines 54-66). Lundby further discloses that the decoding uses an adaptively adjusted number of received symbols, said adjustment being performed by increasing the number of fractional segments being used in the decoding (column 1, lines 62-67; column 2, lines 1-4) and that adaptively adjusting the number

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of symbols comprises decoding using a number or symbols adjusted responsive to the successes of previously received messages (column 1, lines 62-67; column 2, lines 1-4). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wolf to include decoding an adjustable amount of symbols, as disclosed by Lundby, in order to reduce decoding time by only decoding those symbols required to achieve accuracy.

9. Regarding claims 15 and 16, Lundby further discloses that the decoding using the smallest segment to ensure successful decoding. This implies that the confidence margin of one of the previous decodings is low.

10. Claims 30, 31, 39, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundby in view of Watanabe and Wolf.

11. Regarding claim 30, Lundby discloses a method for decoding a message comprising receiving encoded symbols and decoding the frame (column 1, lines 62-66). Lundby does not disclose the step of altering the value of at least one of the received symbols. Watanabe discloses a method of providing a decoded value including altering the values of at least one of the decoded bits of the frame by performing an error correction, and providing decoded values of the bits of the frame including the altered values (column 4, lines 58-62). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Lundby to include altering the values of at least one of the decoded bits, as performed by Watanabe, in order to correct for errors in the decoded message. While the Watanabe reference discloses performing error correction after Viterbi decoding, in a system such as that disclosed by Wolf which contains concatenated codes, final decoding would be based on the altered values (see generally column 8, lines 24-30).

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12. Regarding claim 31, Lundby further discloses receiving fewer than the number of symbols in the frame (see generally column 1, lines 62-66).

13. Regarding claims 39 and 40, Lundby further discloses performing additional decoding if an initial decoding attempt is unsuccessful (see generally column 1, lines 62-67; column 2, lines 1-4). While Lundby does not specifically disclose an error detection code, the use of such a code is well known in the art to determine the success of a decoding process.

***Allowable Subject Matter***

14. Claims 23-25, 27-29, and 42-51 are allowed. Regarding claims 42-51, prior art of record does not disclose that the messages are related to whether the communications channel is or should be in a sleep or wake mode. Regarding claims 23-25 and 27, prior art of record does not disclose that the adjustments to the number of symbols being decoded is related to the channel on which the symbols are received. Regarding claims 28 and 29, prior art of record does not disclose that the number of symbols used in decoding the symbols is based on a quality indication.

15. Claims 6, 8, 13, 17-21, 32-38 and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Regarding claims 6, 8, and 17-21, prior art of record does not disclose that the messages are related to whether the communications channel is or should be in a sleep or wake mode. Regarding claim 13, prior art of record does not disclose that the adjustments to the number of symbols being decoded is related to the channel on which the symbols are received. Regarding claims 32-38 and 41, prior art of record

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does not disclose the conditions used in determining whether to alter a symbol as claimed by the applicant. Symbols in the prior art are altered based on errors.

***Response to Arguments***

16. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Demetria A. Williams whose telephone number is (703) 305-4078. The examiner can normally be reached on Monday - Friday, 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.

daw  
April 7, 2003

CHI PHAM  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

CHI PHAM  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

4/7/03